Helping Farmers in Rural Veracruz Connect to the Global Economy

by Gail Sanders

In fall 2008 the Mexican Center was awarded a $250,000 grant by USAID, the U.S. federal agency for international development, to help farmers in rural Veracruz connect to the global economy using an innovative cell phone technology. The grant is the first awarded to develop information technology in Mexico by the USAID Higher Education for Development (HED) program, which supports partnerships between U.S. and Mexican universities on a range of development issues. The Mexican Center is working with several partners on this wide-ranging project, including the Universidad Veracruzana—one of Mexico's largest public universities, with a total enrollment of more than seventy thousand students—and the University of California, Berkeley, where faculty and students are creating ICT for marginalized communities in the developing world.

Another crucial partner is the Universidad Veracruzana Intercultural (UVI), a component institution of the Universidad Veracruzana that gives indigenous students a chance to gain a college education while they work to improve life in their communities. UVI has an enrollment of more than five hundred indigenous students, and more than 60 percent are women. The UVI program has four campuses located in the principal indigenous areas of the state of Veracruz, and is designed for students and graduates to learn how to contribute to the economic and cultural development of their communities, with an intensive hands-on, community-based approach to learning. Starting with their first semester, students spend 40 percent of their time in practical training outside the classroom in such areas as sustainable agriculture, human rights, healthcare, and preservation of indigenous languages and the arts. The Center for Sustainable Development and Productivity, an Austin-based NGO, is also a contributor to the project. The center helps small-scale farmers throughout Latin America to organize into cooperatives, or small businesses, and trains them how to market and sell their crops successfully.

The goal of the project is to help farmers like these in Veracruz to take ownership of successful small business practices and information technology so that they can become self-sustaining. The larger goal is to ensure that indigenous communities in Mexico participate in the long-term creation of jobs that generate a living wage, improving the quality of life in their regions and reducing migration to the United States and to urban centers in Mexico.

Many small producers in Veracruz know how to cultivate their crops, but they often lack the tools that can lift them out of subsistence farming. Frequently they work on too small a scale to be profitable, they don't have access to financing, or they are unable to identify markets, whether in Veracruz, in Mexico, or internationally. Often they don't know how to navigate the world of the "coyotes," or disreputable middlemen, who buy up the farmers' goods at below-market levels only to resell them at high markups without sharing the profits with the original producers.

The first step in the project will be to help farmers organize into cooperatives that are recognized as legal entities and are eligible for tax incentives, financing, and government agricultural programs in Mexico. Marco Muñoz, Assistant Director of LLILAS and a native of Veracruz with extensive experience in rural development there, will lead the effort to identify and organize the cooperatives. Once the farmers are organized, they will receive training from the project participants on how to add value to their products and successfully market their goods. Instead of selling a commodity like vanilla beans, one of the most labor-intensive crops in the world and a plant native to Veracruz, a farmer cooperative can bottle the vanilla beans or

create a high-quality extract from them, thereby commanding a higher price for its goods. They will learn the latest packing and sanitation practices in the food import industry, and how to use microfinance networks to obtain capital to reinvest in their ventures. They also will learn the important role that skillful managers play in a successful business and will be able to draw on graduates from UVI to serve as the managers for their enterprises.

The second phase of the project focuses on building up the UVI curriculum to make the program a leader in economic development in Veracruz, and to give UVI and Universidad Veracruzana students the opportunity to study sustainable development at the University of Texas at Austin. Beginning in fall 2009, the USAID grant will provide scholarships for eight students from UV and UVI to come to UT Austin to study, either as undergraduates or master's students, taking classes that are relevant to rural development. To complement their IT work in their hometowns in Veracruz, these students will participate in a special Web technology course through LANIC, the Latin American Network Information Center at LLILAS. Students will return to Mexico with the training to become leaders in their communities and tools to make their regions economically self-sustaining.

At the same time, UT students will travel to Veracruz beginning in summer 2010 to conduct field research related to the goals of the project. Working with UVI students and faculty, students from UT will spend six weeks in small communities near the UVI campuses where farmer cooperatives have been organized. They will live in the homes of UVI students or in small hostels and gain firsthand experience of economic and social conditions in rural Mexico.

Tying together the farmer cooperative program and the scholarship program is a new cell phone technology that allows users to capture and process data in the field. Tapan Parikh, a Professor of Information at UC Berkeley, invented a technology that effectively converts cell phones into hand-held computers that don't require a signal and are capable of recording planting times, harvest results, financing efforts, and inventory, among other uses. The cell phones do not require a signal or service, an important feature in a country as mountainous as Mexico. Farmers can upload the information they collect to a portable USB drive that is then taken to the cooperative's main office, where managers analyze the data and give their feedback to the farmers, helping them to improve their productivity or to troubleshoot harvesting or transportation problems that arise. Because the cell phone technology also can record audio and take photos, cooperatives can personalize their information for prospective buyers on their cooperative Web site, allowing produce importers and ultimately the end consumer to learn where their purchases were grown and under what conditions, and to communicate with the farmers who grew them.

Tapan Parikh first developed the technology for microfinance groups run by women in southen India. In recognition for his work there, he was awarded the MIT *Technology Review*'s Humanitarian of the Year Award in 2007. Parikh works with a talented group of students who are experimenting with new ICT throughout the world. Yael Schwartzman is a student of Parikh based in Mexico City who has spent the past three years refining his technology at a coffee cooperative in Oaxaca. She will work on the ground with students and farmers in the Veracruz project to adapt the cell phone application, which she has dubbed DigitalICS, to make sure it meets local needs.

The USAID grant also provides seed money for faculty at UT, the Universidad Veracruzana, and UC Berkeley to conduct research that is related to the goals of the project, either on their own or in collaboration with colleagues at the participating institutions. The idea is to use these grants as a springboard for further funding and to foster more collaboration between the partners.

"Our challenge is to establish a model for job creation in rural Mexico, and to connect small-scale farmers to new, global technologies," Marco Muñoz says. "With these cost-effective communication technologies, we offer hope for improving livelihoods in remote communities."

Gail Sanders is the Coordinator for the Mexican Center of LLILAS.

Left to right: UVI campus in Tequila, Veracruz; Student presents research on indigenous medicines at UVI. Photos by Marco Muñoz